WORK PLAN

Humboldt Weed Management Area
Supplemental Project Proposal
January 1, 2011- December 31, 2012

WMA Supplemental Proposal COVER SHEET

Primary Contract Lead Person (contract signatory for NPS)
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Supplemental Project Executive Summary (MAX 10 lines):
This project involves continuation of a multi-year treatment and control strategy of Harding grass (*Phalaris aquatica*) in the Bald Hills region of Redwood National Park, which will help prevent further spread into un-infested prairies.

Your WMA's TOP THREE Accomplishments over the past 2 years (Max- 2 lines each):
1. Meadow knapweed project showed effective regional collaboration between counties and agencies; many sites showed decreased seedlings; positive trends in age class distribution.

2. Japanese knotweed project in Mattole River watershed documented a reduced stem count at 5 of 8 known patches, eradication of 1 previously existing patch, and 2 new sites tarped.

3. The HWMA held 2 public workshops in 2009; the first one provided weed control options for organic producers; the second one provided strategies for home/land owners to combat invasives.

Supplemental Project Summary of Methods Used (MAX 4 lines) :
Phalaris will be treated through foliar application of Aquamaster (glyphosate) herbicide.

Summary of Net and Gross Acres:

Estimated Net acres or number of plants proposed to actually treat:
Phalaris: 70 acres

Gross acres or total ground proposed to survey/cover while conducting treatments:
Phalaris: 2900 acres

Estimated Total Cost per acre for proposed treatments: *
Phalaris: $260/gross acre, $500/net acre

*see individual project proposal for detailed information on treatment methods used

Summary of In-Kind Contributions toward the Project (MAX 4 lines):
Phalaris: Redwood National Park will provide staff for project planning, management and oversight, including hiring and supervision of crews, work planning, equipment needs, GIS documentation, data collation; fund temporary biological science technicians to work in the field alongside the CDFA-funded technicians; herbicide and mileage.

WMA Group: Humboldt Weed Management Area

Supplemental Project Title: Harding Grass Control: Bald Hills, Redwood National Park

Priority Topic Area Being Addressed (from request for proposal announcement):
#2 Containment: We have defined a no-spread line within the Bald Hills and have emphasized treating the outliers to prevent spread beyond this line, before treating the core infestation. There is a small infestation on an adjacent ranch and we are cooperating with the land owner to control Harding grass on there as well.

#4 High-value site: Control of a Cal-IPC "moderate" rated weed in a high value site. This species is also classified as a "red alert" species by the Humboldt WMA. The Bald Hills area is a site of very high value within RNSP. It is managed to preserve significant cultural resources that include a federally recognized historical archeological district and pre-historic cultural landscapes; high botanical quality represented by a diverse suite of native prairie species, including a CNPS List 4 species, Tracy's tarplant (*Hemizonia congesta ssp. tracyi);* and high quality habitat for the 200+ Roosevelt elk that forage throughout the area. The Bald Hills is also an important resource for recreational visitors to the park who come there to appreciate a relatively intact quintessential California landscape.

Supplemental Project Goal (6 LINES MAX):
This project will continue a multi-year Harding grass treatment and control strategy in the Bald Hills (BH). Goals are to: a) reduce cover and extent in infested prairies to a maintenance level, b) prevent further spread throughout infested prairies, c) prevent expansion into un-infested prairies along the BH ridgeline, and d) outreach with the adjacent landowner for control of their small infestation. We have completed 3 yrs of pilot work and 2 yrs of large-scale control work. The requested funds will allow us to match funds from the NPS Exotic Plant Management Team, and park funds.

What are the project's long-term benefits and/or region-wide significance (6 LINES MAX):
California perennial grasslands are globally recognized for their biodiversity and are considered endangered communities. These prairies offer an excellent example of perennial grassland, comprised of a diverse mix of native and non-native species. Harding grass overtakes grasslands and creates monocultures over time, and has begun to do so here. By treating it and preventing its spread in the BH, we will preserve a unique assemblage of native plants, quality elk habitat and a pre-historic and historic landscape, and prevent widespread establishment on park and neighboring lands.

Supplemental Project Objectives and Methods (1/2 page MAX):
Task/Objective 1: Summer, 2011 and 2012: Seasonal, permanent and volunteer bio-techs will re-treat all Harding grass polygons with a foliar application of Aquamaster (glyphosate) using

backpack sprayers and an ATV mounted tank, document the treatment within the GIS database, and survey for, map and treat new occurrences of Harding grass. Certain areas may be mowed by park staff prior to spraying, depending on results of seed germination trials that are planned for summer, 2010. We will also treat a small infestation on the adjacent private ranch.

Task/Objective 2: Summer, 2011 and 2012: Park staff will revisit the 14 established monitoring plots to continue to assess treatment efficacy.

Task/Objective 3: Fall 2011 and 2012: Distribute native seed into large infestation areas in conjunction with the prescribed burn program. Seed would be collected in summer, and distributed in specific prairies after the fall burns.

Supplemental Project Performance measures (¼ page max):

We will continue to estimate Harding grass cover class in the treated polygons before treatment and on a yearly basis for at least three years after treatment. We have also established 14 monitoring plots that consist of frequency data and ocular estimates of cover along transects placed in Harding grass treatment areas. This method dovetails with our long-term prairie monitoring program and will be analyzed along with our prairie plots.

Park staff will also survey the prairies annually to detect and map new or previously undetected infestations. We will consider the project successful over the long term if cover is reduced in the monitoring plots by 95% and the overall extent of the infestation is reduced by 90% at the end of our 5-7 year treatment strategy. This strategy anticipates that it will take 3-4 years to bring the infestation to a maintenance level, after the infestation core is treated. To date, the outliers have all been treated once or twice, and we have found a reduction in cover after two treatments. The core is scheduled for treatment in summer 2010.